KISII UNIVERSITY COLLEGE

CERTIFICATE IN ANIMAL HEALTH: Y1S2

MICROBIOLOGY: ANHE 00212

Instructions: Answer All Questions in SECTION I and any TWO questions in SECTION II.

SECTION I

1. a) Define the following terms:
   1. Plasmid (1marks)
   2. Capsule (1marks)
   3. bacteria culture (1 marks)
   4. enriched media (1marks)
   5. enrichment media (1marks)
   6. differential media (1marks)

   b) With the aid of a diagram draw the morphological structure of the following bacteria:
   - *a. Streptococcus agalactae* (2 marks)
   - *b. Bacillus anthracis* (2 marks)
   - *c. Clostridium tetani* (2 marks)
   - *d. Staphylococcus aureus* (2marks)

   c) State two functions of bacteria plasmid. (2 marks)

   d) State three cases where a dark field microscopy may be used. (3 marks)

2. a) Differentiate between Gram positive and Gram negative bacteria. (2marks).

   b) Bacteria occur in different groups according to the position of their flagella. Name the six groups.
(6 marks)

   c) State function of endospores and indicate four bacteria that produce spores
(5 marks)

3. a) State four family of viruses. (2 marks)

   b) Draw the general structure of a microsporum (2 marks)

   c) State the importance of fungal and bacterial endospores (2 marks)

4.State the four presentation of bacteria flagella and give example in each case.
(8 marks)

SECTION II

4. A case of a cow producing yellowish milk that is blood tinged, you as the laboratory technologist, state your general tentative diagnosis and explain in detail how you would come up with your definitive diagnosis and specific treatment for the case. (15 marks)

5. Describe the acid fast staining technique and its interpretation (15 marks)

6. Describe the viable counting technique as a method of counting bacteria.
(15 marks)